

REMARKS

The Final Office Action issued 18 August 2003 and the Advisory Action issued 28 November 2003, have been reviewed and the comments of the U.S. Patent and Trademark Office have been considered. Claims 1 and 8 have been amended. Claims 2, 5, 7-24 have been withdrawn from consideration pursuant to a restriction and election requirement. Accordingly, Applicants request reconsideration of all pending claims.

Claims 1, 3, 4 and 6 stand rejected under 35 U.S.C. § 102 as being anticipated by PCT Publication No. WO 97/49911 published 31 December 1997 to Rembold *et al* ("Rembold '911"). In the alternative, claims 1, 3, 4, and 6 stand rejected under 35 U.S.C. § 103 as being obvious over Rembold '911. Applicants respectfully traverse these rejections because Rembold '911 fails to teach or suggest the claimed invention as a whole.

Insofar as the rejection is applicable to amended claim 1, Applicants respectfully traverse this rejection because Rembold '911 fails to teach or suggest the claimed invention as a whole.

Amended claim 1 recites a fuel injector that includes, *inter alia*, a plurality of passages. Each of the plurality of passages has a passage surface extending along a central axis such that each central axis intersects the longitudinal axis "and each other at a common point on the longitudinal axis." Support for this amendment to claims 1 and 8 is provided by the originally filed application at, for example, page 6, lines 22-30 and shown in Figures 3A, 3B, 6 and 7.

In sharp contrast, Rembold '911 shows in each of Figures 4, 6, and 9 that each of the fuel channels 34 has a central axis (not numbered) offset to the longitudinal axis A by a specified distance such as, for example "d" in Figure 4, "d₁" and "d₂" in Figure 6. Because the central axis of each of the fuel channels 34 is offset to instead of intersecting the longitudinal axis A, Rembold '911 fails to anticipate claim 1. Moreover, because pairs of the central axes of the fuel channels 34 intersect at a common point offset to the longitudinal axis A, and all of the central axes do not intersect the common point on the longitudinal axis A, Rembold '911 fails to anticipate claim 1. For at least these reasons, Rembold '911 fails to anticipate the claimed invention as a whole, as recited in claim 1.

Notwithstanding the deficiencies of Rembold '911, the Office Action proposes to modify Rembold to eliminate the offset spacing intervals of Rembold '911 as a matter of routine optimization to provide for the claimed invention as a whole. Applicants respectfully traverse the rejection of

these claims as being obvious in view of Rembold '911 because Rembold '911 fails to teach or suggest the claimed invention as a whole for at least two reasons:

- (1) Rembold '911 requires the offset spacing in order to achieve a fuel spray configuration and the proposed elimination of the offset spacing could prevent Rembold from achieving the specified fuel spray configuration; and
- (2) Rembold '911 fails to show, describe, or suggest that the respective central axes of the fuel channels 34 intersect each other at a common point on the longitudinal axis.

First, Rembold '911 specifically requires some offset spacing with respect to the longitudinal axis, and the elimination of such offset spacing could render Rembold '911 unsuitable for its intended purpose, i.e., in achieving a specific fuel spray configuration. In particular, Rembold '050 states that there must be different circumferential distance intervals (col. 5, lines 38-40); the fuel channels 34 are disposed variably offset to the axis A (Rembold '050 at col. 6, line 18); and the fuel jets can strike the wall 41 or needle 39 instead of each other. Thus, Rembold '050, which the USPTO represents is a translation of Rembold '911, specifically requires some spacing relative to the longitudinal axis A to induce a fuel cloud by fuel jets running past each other. One of ordinary skill would not have been motivated to modify Rembold '911 as a matter of routine optimization to eliminate the offset spacing of each axis of the fuel channels 34 relative to the longitudinal axis A because such modification could prevent Rembold '911 from generating the specified fuel cloud. As noted at MPEP §2143.01, “[i]f the proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” Accordingly, claim 1 is patentable because Rembold '911 fails to teach or suggest features of the claimed invention as a whole.

Second, Rembold '911 fails to show or describe that the respective central axes of each fuel channels 34 intersect each other at a common point on the longitudinal axis A. As shown in Figures 4, 6, and 9, the fuel channels 34 of Rembold '911 are positioned so that any two axes intersect each other at a common point offset to the longitudinal axis A. Consequently, all of the axes of the fuel channels 34 fail to intersect each other at a common point on the longitudinal axis A. Because Rembold '911 fails to show, describe, or suggest that the central axes of all of the fuel channels 34 intersect each other at a common point on the longitudinal axis A, Rembold '911 fails to teach or

suggest all of the claimed features. Where all of the claimed features are not taught or suggested by Rembold '911, then a *prima facie* case of obviousness has not been established based upon the cited prior art. Thus, claim 1 is patentable because Rembold '911 fails to teach or suggest all of the claimed features, as recited in claim 1.

Applicants respectfully request entry of this amendment because the amendment places this application in condition for allowance or in better form for appeal. Claims 1 and 8 have been amended to particularly point out and distinctly claim the subject matter of applicants' invention. Accordingly, applicants respectfully request entry of the amendment and allowance of the claims.

CONCLUSION

In view of the foregoing remarks, applicants respectfully request the entry, reconsideration and reexamination of this application and allowance of the pending claims 1-24. Applicants respectfully invite the Examiner to contact the undersigned at (202) 739-5203 if there are any outstanding issues that can be resolved via a telephone conference.

EXCEPT for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

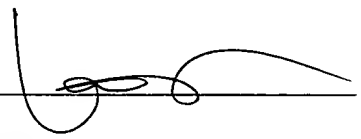
Respectfully submitted,

Date: 19 February 2004

MORGAN, LEWIS & BOCKIUS LLP

1111 M Street N.W.,
Washington, D.C. 20004
202.739.3000

Customer No. 009629


Khoi Q. Ta
Reg. No. 47,300